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QUARTERLY GROUNDWATER MONITORING AND SAMPLING REPORT FOR THE **POWERINE REFINERY**

January 1988/9

PREPARED FOR

Powerine Oil Company
P.O. Box 2108
Santa Fe Springs, California 90670

By

ENSR CONSULTING AND ENGINEERING
(Formerly ERT, Inc.)
19782 MacArthur Boulevard, Suite 365
Irvine, California 92715

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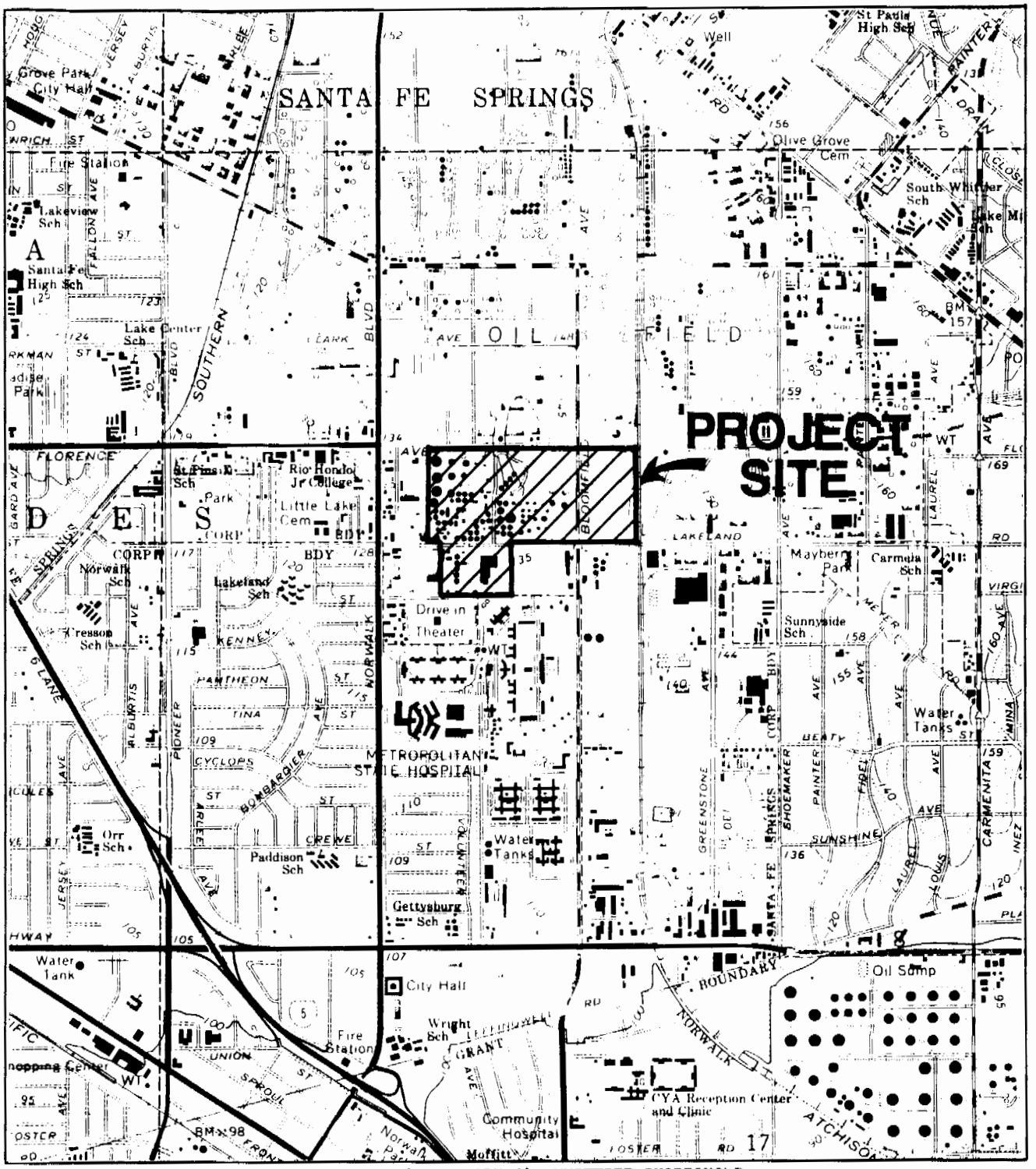
1.0 INTRODUCTION

ENSR Consulting and Engineering (Formerly ERT,Inc.) personnel measured water levels in thirteen (13) monitoring wells on December 5, 1988 and collected water samples from ten (10) monitoring wells on December 6, and December 7, 1988 at the Powerine Oil Company refinery located at 12354 Lakeland Road, Santa Fe Springs, California (Figures 1 and 2). Groundwater samples were analyzed to evaluate the concentrations of purgeable halocarbon and purgeable volatile organic compounds. This work was performed to comply with the requirements of the Regional Water Quality Control Board, Los Angeles Region (RWQCB) for quarterly monitoring, sampling, and analytical testing of perched groundwater beneath the refinery. This report summarizes the field procedures, laboratory analyses, and analytical results for the fourth quarter of 1988.



BASE MAP FROM U.S.G.S, 7½ MINUTE SERIES (TOPOGRAPHIC), WHITTIER QUADRANGLE

ERT

A RESOURCE ENGINEERING COMPANY

FIGURE 1

PROJECT SITE LOCATION MAP

DRAWN BY:	DATE:	PROJECT NO.:
CHK'D BY: RR	REVISED:	DWG.NO.:

FX-9 Wells

2.0 GROUNDWATER MONITORING AND SAMPLING

2.1 Water-Level Monitoring

Water-level monitoring was performed on December 5, 1988 using a Solinst water level meter in wells containing water only, and a stainless steel tape, water gauging paste, and gasoline gauging paste in wells containing free product (MW-501, MW-504). Monitoring equipment was decontaminated following each measurement. The decontamination procedure consisted of a tap water rinse, a thorough scrubbing using a non-phosphatic detergent in tap water, a second tap water rinse, and a final rinse using distilled water obtained from a State-certified analytical laboratory.

Groundwater monitoring results are summarized in Table 1 and are illustrated on the groundwater contour map in Figure 3. Groundwater elevations ranged from 34.82 feet above MSL in MW-502 to 52.93 feet above MSL in MW-104. The water table gradient slopes southwesterly across the site.

As in previous quarters, monitoring well MW-202 was observed to be dry. Monitoring well MW-504 contained 1.87 feet of free product and, MW-501 contained .7 feet of free product on the upper surface of the perched aquifer. Therefore, water samples were not extracted from these monitoring wells. The depth to groundwater was not measured in monitoring well MW-102 because the well was reportedly destroyed sometime prior to July, 1987.

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TABLE 1

SUMMARY OF WATER-LEVEL MONITORING DATA

MW No.	Date	Elevation Top of Casing (feet,MSL)	Depth to Water (feet)	Water Level Elevations (feet,MSL)	Free Product (feet)
101	12/05/88	134.98	90.10	44.88	ND
102	12/05/88	134.81	a	a	a
103	12/05/88	136.95	94.76	42.19	ND
104	12/05/88	141.60	88.67	52.93	ND
201	12/05/88	132.91	92.24	40.67	ND
202	12/05/88	137.89	b	b	ND
203	12/05/88	143.89	96.76	47.13	ND
204	12/05/88	140.14	96.57	43.57	ND
205	12/05/88	138.17	91.92	46.25	ND
206	12/05/88	129.93	94.93	35.00	ND
501	12/05/88	128.70	94.41	34.82	.7 (1.36)[c]
502	12/05/88	131.19	96.35	34.84	ND
503	12/05/88	131.43	94.74	36.69	ND
504	12/05/88	133.83	94.70	40.53	1.87 (1.57)[c]

KEY

ND = Not Detected
a = Destroyed
b = Dry Well
c = Thickness of free product, previous quarter
MW = Monitoring Well

2.2 Groundwater Sampling

Ten (10) monitoring wells were sampled on December 6 and December 7, 1988. Sampling began with monitoring wells MW-101 and MW-103, which were purged with a hand bailer because the water volume in these wells was insufficient to use an electrical submersible pump. The remaining monitoring wells were sampled starting with monitoring well MW-104, which contained water with the lowest reported concentrations of hydrocarbon compounds, and proceeded sequentially to wells with progressively higher reported concentrations. This sampling sequence was followed in order to minimize the potential for cross contamination between wells. The production well (P-6 on Figure 2) was not sampled since its associated holding tank was under repair during the time of monitoring and sampling.

Before a sample was extracted, each well was purged of approximately four (4) well volumes of water using either a 1/3-horsepower Grundfos submersible pump, or a Teflon hand bailer. Prior to purging of the monitoring wells with the submersible pump, a fire permit was obtained from refinery safety personnel to operated the gasoline powered generator at the well head. Upon removal of four (4) well volumes, the water's pH, temperature, and conductivity were measured and recorded. Purged water was discharged into 55-gallon drums to be later disposed of by refinery personnel.

After purging, water samples were extracted from the monitoring wells using a decontaminated Teflon bailer. Samples were placed into two (2) 40-milliliter VOA vials. The VOA vials are clear and pretreated with HCl, which inhibits the biodegradation of volatile aromatic compounds. All samples were properly labeled and immediately placed on ice in a portable cooler. In addition, two (2) sample blanks consisting of distilled water obtained from a State-certified laboratory were collected (MW-001, MW-002). These sample blanks were extracted from the same Teflon bailer used to samples the monitoring wells.

Monitoring well MW-501 and MW-504 contained free product and, therefore, were not sampled.

All equipment used to purge and sample the monitoring wells was decontaminated after each well was sampled. The decontamination procedure consisted of a tap water rinse, a thorough scrubbing in tap water and non-phosphatic detergent, a second tap water rinse, and a final rinse using distilled water.

A summary of the data recorded while sampling the monitoring wells is presented in Table 2. Conductivity values ranged from 1,730 μmhos/cm in MW-503 to 4,520 μmhos/cm in MW-104 and, in general, demonstrated decreasing values across the site from the northeast to the southwest. The measurements of water pH ranged from 6.5 to 7.0.

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TABLE 2

SUMMARY OF GROUNDWATER SAMPLING DATA

MW No.	Time	Purge Method	Volume Purged (gals.)	Temp. (°C)	pH	Electrical Conductivity (μmhos/cm)	Water Turb.
101	12/06/88 (12:10)	HB	a	23	6.5	*	v. dark, silty
103	12/06/88 (10:15)	HB	1.5	23	7.0	2900	gray, silty
104	12/06/88 (15:00)	SP	20	23	7.0	4520	clear to sl. cloudy
201	12/07/88 (10:30)	SP	20	22	6.5	1970	lt.gray, cloudy
202	b	b	b	b	b	b	b
203	12/07/88 (09:25)	SP	30	24	6.5	3270	sl. cloudy
204	12/06/88 (10:10)	SP	25	24	6.5	2110	lt.gray/ green, cloudy
205	12/07/88 (16:45)	SP	30	22	6.5	2040	lt.gray sl. cloudy
206	12/07/88 (15:00)	SP	25	24	6.5	2160	sl. cloudy
501	c	c	c	c	c	c	c
502	12/07/88 (16:15)	SP	25	23	6.0	2470	sl. cloudy

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TABLE 2 (cont)

SUMMARY OF GROUNDWATER SAMPLING DATA

MW No.	Time	Purge Method	Volume Purged (gals.)	Temp. (°C)	pH	Electrical Conductivity (μmhos/cm)	Water Turb.
503	12/07/88 (11:20)	SP	45	24	6.5	1730	cloudy with emulsification droplets
504	c	c	c	c	c	c	c

KEY

MW = Monitoring well
* = Not measured
a = purge not possible due to insufficient water in well
b = Insufficient water in well
c = Not sampled due to presence of free product in well
HB = Hand bailer
SP = Submersible pump
sl. = Slightly
v = Very
Turb= Turbidity

3.0 LABORATORY ANALYSIS

All samples were submitted to Enseco/Chemical Research Laboratories, Inc., a California-certified analytical laboratory, for analysis using EPA Test Methods 601 and 624. Standard chain-of-custody procedures and documents were utilized (Appendix A). Test methods were performed following EPA monitored quality assurance/quality control procedures assuring results of laboratory analyses.

3.1 EPA Test Method 601

EPA Method 601 is a purge and trap gas chromatographic method applicable to the determination of purgeable halocarbons from water samples as prescribed by 40 CFR 136.1. An inert gas is bubbled through a 5-ml water sample contained in a specifically-designed purging chamber and maintained at ambient temperature from the aqueous phase to the water vapor phase. The vapor is swept through a sorbent trap where the halocarbons are trapped. After purging is completed, the trap is heated and backflushed with the inert gas to desorb the halocarbons which are then detected with a halide specific detector. Two field reagent blanks were prepared from reagent water and carried through the sampling and handling protocol to check for possible contamination. Standard operating procedures require that compound identification should be supported by at least one additional qualitative technique, such as EPA Method 624.

3.2 EPA Test Method 624

EPA method 624 is a purge and trap gas chromatographic/mass spectrometer (GC/MS) method applicable to the determination of purgeable organics from water samples, and is also prescribed by 40 CFR 136.1. An inert gas is bubbled through a 5-ml sample

contained in a specifically designed purging chamber at ambient temperature. The purgeables are efficiently transferred from the aqueous phase to the vapor phase. The vapor is swept through a sorbent column where the purgeables are trapped. After purging is completed, the sorbent column is heated and backflushed with the inert gas to desorb the purgeables into a gas chromatographic column. The gas chromatograph is temperature programmed to separate the purgeables which are then detected with a mass spectrometer. Two field reagent blanks were prepared from reagent water and carried through the sampling and handling protocol to check for possible contamination.

- Free product and chlorinated compounds were detected in property boundary wells

Measures have to be taken to prevent further off-site migration

1,2-DCA detected in well MW-502 at 55,000 ppb = suggested new source of solvent contamination

JL
4-13-89

4.0 ANALYTICAL RESULTS

All analytical results are presented on the Laboratory Reports in Appendix B. Results of analyses for benzene, toluene, ethylbenzene, and total xylenes (BTEX) performed for this and the previous six (6) quarterly reports are summarized on Table 3 and graphically exhibited in Figures 4, 5, 6, and 7. Results of analyses for purgeable halocarbons are summarized on Table 4. In water samples extracted from the ten (10) monitoring wells, benzene concentrations ranged from non-detected (less than 5 µg/L) to 6,500 µg/L, toluene concentrations ranged from non-detected (less than 5 µg/L) to 920 µg/L, ethylbenzene concentrations ranged from non-detected (less than 5 µg/L) to 2,100 µg/L, and concentrations of total xylenes ranged from non-detected (less than 5 µg/L) to 5,500 µg/L. BTEX concentrations did not exceed the method detection limits (5 µg/L) in sample blanks MW-001 and MW-002.

Concentrations of volatile organic compounds were highest in water samples collected from monitoring wells MW-502, MW-206, MW-503, MW-201, MW-101, and MW-103, respectively. Benzene concentrations in these samples were 6,500 µg/L, 4,300 µg/L, 1500 µg/L, 420 µg/L, 490 µg/L and 370 µg/L, respectively. Toluene concentrations of the samples collected in MW-101, MW-201, MW-503, MW-502, and MW-206 ranged from 28 µg/L to 920 µg/L; ethylbenzene concentrations ranged from 19 µg/L to 2,100 µg/L; and total xylene concentrations ranged from 100 µg/L to 5,500 µg/L.

The concentrations of other volatile organic compounds detected in water samples analyzed this quarter were relatively low with the exception of the 1,2-Dichloroethane concentration (55,000 µg/L) detected in the sample from MW-502. A review of monitoring data for the four quarterly monitoring periods preceding this report indicate that 1,2-Dichloroethane has occurred sporadically in several wells in concentrations ranging from 2 µg/L to 20 µg/L. In view of the trace concentrations of this compound in upgradient wells over this period, and the absence

of an apparent source, the reported concentration of 1,2-Dichloroethane is believed to be a laboratory error. Continued sampling of site wells will monitor the occurrence of this compound in site groundwater.

Wells with previous acetone concentrations decreased to non-detected (detection levels ranging from 10 µg/L to 1000 µg/L) for the quarter (Table 5). The production well P-6 was not available for sampling; therefore any changes in acetone concentrations occurring during the quarter could not be evaluated.

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TABLE 3
SUMMARY OF ANALYTICAL TEST RESULTS -
VOLATILE ORGANIC COMPOUNDS
(Values in μg/L)

MW No.	Date	Benzene	Ethyl benzene	Toluene	Total Xylene
101	Dec. 88	490	49	28	ND<20
	Sept.88	310	34	10	13
	June 88	620	ND<50	ND<50	100
	Mar. 88	340	ND<100	ND<100	ND<100
	Dec. 87	140	ND<5	ND<5	ND<5
	Sept.87	340	37	ND<30	ND<30
	June.87	43	1.6	0.5	2.6
103	Dec. 88	370	ND<5	ND<5	ND<5
	Sept.88	300	ND<5	ND<5	8
	June 88	970	ND<50	74	ND<50
	Mar. 88	ND<5	ND<5	ND<5	ND<5
	Dec. 87	12	ND<5	ND<5	ND<5
	Sept.87	120	ND<5	ND<5	ND<5
	June 87	69	1.3	1.1	3.5

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TABLE 3 (cont)
SUMMARY OF ANALYTICAL TEST RESULTS -
VOLATILE ORGANIC COMPOUNDS
(Values in µg/L)

MW No.	Date	Benzene	Ethyl benzene	Toluene	Total Xylene
104	Dec. 88	ND<5	ND<5	ND<5	ND<5
	Sept.88	ND<5	ND<5	ND<5	ND<5
	June 88	ND<5	ND<5	ND<5	ND<5
	Mar. 88	110	23	68	17
	Dec. 87	ND<5	ND<5	ND<5	ND<5
	Sept.87	ND<5	ND<5	ND<5	ND<5
	June 87	0.6	ND<0.5	0.5	1.5
201	Dec. 88	420	19	65	100
	Sept.88	520	110	210	400
	June 88	1000	ND<50	150	250
	Mar. 88	5600	260	880	1400
	Dec. 87	290	ND<5	6	142
	Sept.87	120	9	12	12
	June 87	290	23	12	39

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TABLE 3 (cont)
SUMMARY OF ANALYTICAL TEST RESULTS -
VOLATILE ORGANIC COMPOUNDS
(Values in µg/L)

MW No.	Date	Benzene	Ethyl benzene	Toluene	Total Xylene
203	Dec. 88	64	ND<5	ND<5	ND<5
	Sept.88	76	ND<5	ND<5	ND<5
	June 88	46	ND<5	ND<5	ND<5
	Mar. 88	103	ND<5	ND<5	ND<5
	Dec. 87	120	ND<5	ND<1	ND<1
	Sept.87	92	ND<5	ND<5	ND<5
	June 87	1.0	1.6	0.7	2.9
204	Dec. 88	33	ND<5	ND<5	ND<5
	Sept.88	6	ND<5	ND<5	ND<5
	June 88	19	ND<5	ND<5	ND<5
	Mar. 88	120	ND<20	ND<20	ND<20
	Dec. 87	9	ND<5	ND<5	ND<5
	Sept.87	18	ND<5	ND<5	ND<5
	June 87	45	2.8	0.7	3.4

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TABLE 3 (cont)
SUMMARY OF ANALYTICAL TEST RESULTS -
VOLATILE ORGANIC COMPOUNDS
(Values in µg/L)

MW No.	Date	Benzene	Ethyl benzene	Toluene	Total Xylene
205	Dec. 88	120	ND<5	ND<5	ND<5
	Sept.88	27	ND<5	ND<5	ND<5
	June 88	13	ND<5	ND<5	ND<5
	Mar. 88	74	ND<5	ND<5	8
	Dec. 87	ND<5	ND<5	ND<5	ND<5
	Sept.87	ND<5	ND<5	ND<5	ND<5
	June 87	3.6	0.5	0.6	1.5
206	Dec. 88	4300	2100	920	5500
	Sept.88	4200	2000	1000	6600
	June 88	5800	2100	2400	4900
	Mar.88	6400	3400	3900	7300
	Dec. 87	7400	900	2300	5000
	Sept.87	4100	1300	930	4000
	June 87	3700	1300	1300	3200

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TABLE 3 (cont)
SUMMARY OF ANALYTICAL TEST RESULTS -
VOLATILE ORGANIC COMPOUNDS
(Values in µg/L)

MW No.	Date	Benzene	Ethyl benzene	Toluene	Total Xylene
501	Dec. 88		*Free product present*		
	Sept.88		*Free product present*		
	June 88		*Free product present*		
	Mar. 88	4900	11000	9100	8200
	Dec. 87	8300	400	2000	1100
	Sept.87	1400	170	ND<50	ND<50
	June 87	2200	210	40	78
502	Dec. 88	6500	1500	860	5500
	Sept.88	13000	2800	1800	12000
	June 88	950	62	79	16
	Mar. 88	3600	120	400	2700
	Dec. 87	13000	900	1200	4800
	Sept.87	8400	1300	1700	5500
	June 87	13000	1400	2100	560

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TABLE 3 (cont)
SUMMARY OF ANALYTICAL TEST RESULTS -
VOLATILE ORGANIC COMPOUNDS
(Values in µg/L)

MW No.	Date	Benzene	Ethyl benzene	Toluene	Total Xylene
503	Dec. 88	1500	380	570	960
	Sept.88	800	300	280	910
	June 88	600	340	140	600
	Mar. 88	2700	1300	1300	2400
	Dec. 87	220	ND<10	44	660
	Sept.87	53	280	76	390
	June 87	620	330	360	510
P-6	Dec. 88	_ Not operational			
	Sept.88	- Not operational			
	June 88	- Not operational			
001*	Dec. 88	ND<5	ND<5	ND<5	ND<5
002*	Dec. 88	ND<5	ND<5	ND<5	ND<5

KEY

MW = Monitoring Well
ND = This compound was not detected; the limit of detection for this analysis is the amount stated in the table above.
TR = Trace
* = Sample Blank

Data from June 1987 to September 1987 from IT Corporation Report (October, 1987).

FX-9 Wells

FX-9 Wells

FX-9 Wells

FX-9 Wells

FX-9 Wells

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TABLE 4

SUMMARY OF ANALYTICAL TEST RESULTS - PURGEABLE HALOCARBON COMPOUNDS

Monitoring Well Number	Concentration Compounds Detected	(µg/L)
101*	None Detected	
103*	None Detected	
104	None Detected	
201	1,1-Dichloroethane	40
	1,1,1-Trichloroethane	40
	trans-1,2-Dichloroethene	10
203	trans-1,2-Dichloroethene	25, 24[a]
204	1,2-Dichloroethane	6, 7[a]
205*	None Detected	
206	None Detected	
502**	1,2-Dichloroethane	55,000
503*	None Detected	
001[b]	None Detected	
002[b]	None Detected	

KEY

* A higher than normal detection limits of 10 µg/L or 20 µg/L was used due to matrix interference.

** A higher than normal detection limit of 5000 µg/L was used due to matrix interference.

a - Results of EPA Test Methods 601 and 624 respectively.

b - Sample Blank

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TABLE 5

SUMMARY OF ACETONE CONCENTRATIONS

EPA METHOD 624
(Values in µg/L)

MW No.	12/88	9/88	6/88	3/88	12/87
101	ND<50	81	870	ND<200	ND<10
103	ND<10	ND<10	1,100	50	ND<10
104	ND<10	ND<10	ND<10	33	ND<10
201	ND<10	ND<100	1,700	ND<200	ND<10
203	ND<10	20	200	71	ND<10
204	ND<10	ND<10	ND<10	400	ND<10
205	ND<10	ND<10	ND<10	190	240
206	ND<1000	3,000	2,500	ND<500	ND<500
502	ND<500	ND<500	ND<10	ND<200	1,700
503	ND<200	ND<100	1,700	1,900	ND<20
P-6	NA	NA	NA	NA	45
002*	ND<10	35	ND<10	ND<10	ND<10

KEY

NA = Not Analyzed (Well could not be sampled)

ND = Not detected.

* = Sample blank collected after sampling MW-206

5.0 CONCLUSIONS

The monitoring and analytical results derived in the second quarter of 1988 reveal several deviations from previous quarters (Tables 3, 4, and 5). Analysis of the most recent results compared with the results from the previous quarter (June, 1988) indicate the following:

- Free product thickness in monitoring well MW-501 decreased by .66 feet from 1.36 feet to .7 feet.
- Free product thickness in monitoring well MW-504 increased by .3 feet from 1.57 feet to 1.87 feet.
- Benzene concentrations remained non-detected in MW-104; decreased in MW-201, MW-203, and significantly in MW-502; and increased in MW-101, MW-103, MW-204, MW-205, MW-206, and MW-503.
- Toluene concentrations remained non-detected in MW-103, MW-104, MW-203, MW-204, and MW-205; decreased in MW-201, MW-206, and MW-502; and increased in MW-101 and MW-503.
- Ethylbenzene concentrations remained non-detected in MW-103, MW-104, MW-203, MW-204, and MW-205; decreased in MW-201 and MW-502; and increased in MW-101, MW-206, and MW-503.
- Total xylene concentrations remained non-detected in MW-104, MW-203, MW-204, and MW-205; decreased in MW-101, MW-103, MW-201, MW-206, and significantly in MW-502; and increased in MW-503.
- Acetone concentrations decreased in all wells to non-detected levels.
- In general, analytical results of water samples from monitoring wells MW-104, MW-201, MW-203, MW-204, MW-205, and MW-206 remain consistent with the results from previous quarters.
- Analytical results of water samples from monitoring wells MW-201 and MW-502 exhibited a decrease in overall BTEX levels.
- Analytical results of water samples from monitoring wells MW-101 and MW-503 exhibited a slight increase in overall BTEX levels.

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- Analytical results indicating high concentrations of 1,2-Dichloroethane in MW-502 are interpreted to be a laboratory error.

Respectfully submitted,

ENSR Consulting and Engineering

Daniel C. Oliver
Project Manager

Kenneth W. Pitchford, R.G. 4135
Senior Hydrogeologist

5500002\RPT-01\Hm

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APPENDIX A

CHAIN-OF-CUSTODY DOCUMENTS

CHAIN OF CUSTODY RECORD

Client/Project Name	Project Location
	Santa Fe Springs
Project No.	**Field Logbook No.**
5500-002-400	
Sampler: (Signature)	**Chain of Custody Tape No.**
Bradley Strauch	

Sample No./ Identification	Date	Time	Lab Sample Number	Type of Sample	ANALYSES 601	ANALYSES 624	REMARKS
MW-103	12/6/88	12:00		water	X		
MW-103		12:00				X	
MW-101		12:10			X		
MW-101		12:10				X	
MW-104		15:00			X		
MW-104		15:00				X	
MW-204	↓	16:10		↓	X		
MW-204	12/6/88	16:10		water		X	

Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time
Bradley Strauch					
Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time
Relinquished by: (Signature)	Date 12/7/88	Time 5:30p	Received for Laboratory: (Signature)	Date 12/7/88	Time 5:30p
Sample Disposal Method:	Disposed of by: (Signature)			Date	Time

SAMPLE COLLECTOR

ENSR
19782 MacArthur Blvd, Ste 365
Irvine, CA 92715

ANALYTICAL LABORATORY

CRL
7440 Lincoln Way
Garden Grove, CA

ERT

No

1974-3-84

CHAIN OF CUSTODY RECORD

Client/Project Name	Project Location
Quarterly Sampling	Santa Fe Springs
Project No.	**Field Logbook No.**
5500-002-900	
Sampler: (Signature)	**Chain of Custody Tape No.**
Bradley Stanek	

Sample No./ Identification	Date	Time	Lab Sample Number	Type of Sample	ANALYSES 601	ANALYSES 624	REMARKS
MW-205	12/6/88	16:45		Water	X		
MW-205	12/6/88	16:45				X	
MW-203	12/7/88	9:25			X		
MW-203		9:25				X	
MW-201		10:30			X		
MW-201		10:30				X	
MW-503		11:20			X		
MW-503	12/7/88	11:20		Water		X	

Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time
Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time
Relinquished by: (Signature)	Date 12/7/88	Time 5:30	Received for Laboratory: (Signature)	Date 12/7/88	Time 5:30
Sample Disposal Method:	Disposed of by: (Signature)			Date	Time

SAMPLE COLLECTOR

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19752 MacArthur Blvd., Ste 165
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ANALYTICAL LABORATORY

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No

1974-3-84

CHAIN OF CUSTODY RECORD

Client/Project Name	Project Location
Quarterly Sampling	Santa Fe Springs
Project No.	**Field Logbook No.**
5500-002-400	
Sampler: (Signature)	**Chain of Custody Tape No.**
Bradley Stevens	

Sample No./ Identification	Date	Time	Lab Sample Number	Type of Sample	ANALYSES 601	ANALYSES 624					REMARKS
MW-206	12/7/88	15:00		Water	X						
MW-206	↓	15:00		↓		X					
MW-502	↓	16:15		↓	X						
MW-502	12/7/88	16:15		Water		X					
MW-001	12/7/88			↓	X	X					
MW-002	↓				X	X					

Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time
Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time
Relinquished by: (Signature) Bradley Stevens	Date 12/7/88	Time 5:30p	Received for Laboratory: (Signature)	Date 12/7/88	Time 5:30p
Sample Disposal Method:	**Disposed of by: (Signature)**			**Date**	**Time**

SAMPLE COLLECTOR	ANALYTICAL LABORATORY	ERT
EMSR 19782 MacArthur Blvd, Ste 365 Irvine, CA 92715	CRL 7440 Lincoln Way Garden Grove, CA	No.

1974-3-84

APPENDIX B

LABORATORY REPORTS

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CRL Environmental - South Coast
7440 Lincoln Way ● Garden Grove, CA 92641
(213) 598-0458 ● (714) 898-6370 ● (800) LAB-1-CRL
FAX: (714) 891-5917

January 9, 1989

ENSR
19782 MacArthur Blvd., Ste. 365
Irvine, CA 92715
ATTN: Mr. Bradley Strauch

ANALYSIS NO.: G-8834213-001/012
ANALYSES: EPA Methods 624 & 601
DATE SAMPLED: 6/7-DEC-1988
DATE SAMPLE REC'D: 7-DEC-1988
PROJECT: Santa Fe Springs
#5500-002-400

Enclosed with this letter is the report on the chemical and physical analyses on the samples from ANALYSIS NO: G-8834213-001/012 shown above.

The samples were received by CRL in a chilled state, intact, and with the chain-of-custody record attached. Sample seals were intact.

Please note that ND( ) means not detected at the detection limit expressed within the parentheses.

Results for EPA Methods 601 and 624 were faxed January 3, 1989 at 3:50 P.M.

REVIEWED

APPROVED

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FAX: (714) 891-5917

Laboratory Report

ENSR
975 BUSINESS CENTER CIRCLE
NEWBERRY PARK, CA 91320
ATTN: MR. BRADLEY STRAUCH

Analysis No.: G-8834213-001
Date Sampled: 6-DEC-1988
Date Sample Rec'd: 7-DEC-1988
Date Analyzed: 13-DEC-1988
Sample Type: LIQUID

Project: SANTE FE SPRINGS #5500-002-400
Sample ID: MW-103

Purgeable Organics, EPA 624

Units: ug/L

Analysis	Result	Blank	Detection Limit
Chloromethane	ND	ND	10
Bromomethane	ND	ND	10
Vinyl Chloride	ND	ND	10
Chloroethane	ND	ND	10
Methylene Chloride	ND	ND	5
Acetone	ND	ND	10
Carbon Disulfide	ND	ND	5
1,1-Dichloroethene	ND	ND	5
1,1-Dichloroethane	ND	ND	5
trans-1,2-Dichloroethene	ND	ND	5
Chloroform	ND	ND	5
1,2-Dichloroethane	ND	ND	5
2-Butanone	ND	ND	10
1,1,1-Trichloroethane	ND	ND	5
Carbon Tetrachloride	ND	ND	5
Vinyl Acetate	ND	ND	10
Bromodichloromethane	ND	ND	5
1,2-Dichloropropane	ND	ND	5
trans-1,3-Dichloropropene	ND	ND	5
Trichloroethene	ND	ND	5
Dibromochloromethane	ND	ND	5
1,1,2-Trichloroethane	ND	ND	5
Benzene	370	ND	5
cis-1,3-Dichloropropene	ND	ND	5
2-Chloroethylvinyl ether	ND	ND	10
Bromoform	ND	ND	5
4-Methyl-2-pentanone	110	ND	10
2-Hexanone	21	ND	10
Tetrachloroethene	ND	ND	5
1,1,2,2-Tetrachloroethane	ND	ND	5
Toluene	ND	ND	5
Chlorobenzene	ND	ND	5
Ethyl Benzene	ND	ND	5
Styrene	ND	ND	5
Total Xylenes	5	ND	5

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FAX: (714) 891-5917

Laboratory Report

ENSR
19782 MACARTHUR BLVD
STE 365
IRVINE, CA 92715
ATTN: MR. BRADLEY STRAUCH

Analysis No.: G-8834213-002
Date Sampled: 6-DEC-1988
Date Sample Rec'd: 7-DEC-1988
Date Analyzed: 13-DEC-1988
Sample Type: LIQUID

Project: SANTE FE SPRINGS #5500-002-400
Sample ID: MW-101

Purgeable Organics, EPA 624

Units: ug/L

Analysis	Result	Blank	Detection Limit
Chloromethane	ND	ND	50
Bromomethane	ND	ND	50
Vinyl Chloride	ND	ND	50
Chloroethane	ND	ND	50
Methylene Chloride	ND	ND	20
Acetone	ND	ND	50
Carbon Disulfide	ND	ND	20
1,1-Dichloroethene	ND	ND	20
1,1-Dichloroethane	ND	ND	20
trans-1,2-Dichloroethene	ND	ND	20
Chloroform	ND	ND	20
1,2-Dichloroethane	ND	ND	20
2-Butanone	ND	ND	50
1,1,1-Trichloroethane	ND	ND	20
Carbon Tetrachloride	ND	ND	20
Vinyl Acetate	ND	ND	50
Bromodichloromethane	ND	ND	20
1,2-Dichloropropane	ND	ND	20
trans-1,3-Dichloropropene	ND	ND	20
Trichloroethene	ND	ND	20
Dibromochloromethane	ND	ND	20
1,1,2-Trichloroethane	ND	ND	20
Benzene	490	ND	20
cis-1,3-Dichloropropene	ND	ND	20
2-Chloroethylvinyl ether	ND	ND	50
Bromoform	ND	ND	20
4-Methyl-2-pentanone	ND	ND	50
2-Hexanone	ND	ND	50
Tetrachloroethene	ND	ND	20
1,1,2,2-Tetrachloroethane	ND	ND	20
Toluene	28	ND	20
Chlorobenzene	ND	ND	20
Ethyl Benzene	49	ND	20
Styrene	ND	ND	20
Total Xylenes	ND	ND	20

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Laboratory Report

ENSR
19782 MACARTHUR BLVD
STE 365
IRVINE, CA 92715
ATTN: MR. BRADLEY STRAUCH
Project: SANTE FE SPRINGS #5500-002-400
Sample ID: MW-104

Analysis No.: G-8834213-003
Date Sampled: 6-DEC-1988
Date Sample Rec'd: 7-DEC-1988
Date Analyzed: 13-DEC-1988
Sample Type: LIQUID

Purgeable Organics, EPA 624

Units: ug/L

Analysis	Result	Blank	Detection Limit
Chloromethane	ND	ND	10
Bromomethane	ND	ND	10
Vinyl Chloride	ND	ND	10
Chloroethane	ND	ND	10
Methylene Chloride	ND	ND	5
Acetone	ND	ND	10
Carbon Disulfide	ND	ND	5
1,1-Dichloroethene	ND	ND	5
1,1-Dichloroethane	ND	ND	5
trans-1,2-Dichloroethene	ND	ND	5
Chloroform	ND	ND	5
1,2-Dichloroethane	ND	ND	5
2-Butanone	ND	ND	10
1,1,1-Trichloroethane	ND	ND	5
Carbon Tetrachloride	ND	ND	5
Vinyl Acetate	ND	ND	10
Bromodichloromethane	ND	ND	5
1,2-Dichloropropane	ND	ND	5
trans-1,3-Dichloropropene	ND	ND	5
Trichloroethene	ND	ND	5
Dibromochloromethane	ND	ND	5
1,1,2-Trichloroethane	ND	ND	5
Benzene	ND	ND	5
cis-1,3-Dichloropropene	ND	ND	5
2-Chloroethylvinyl ether	ND	ND	10
Bromoform	ND	ND	5
4-Methyl-2-pentanone	ND	ND	10
2-Hexanone	ND	ND	10
Tetrachloroethene	ND	ND	5
1,1,2,2-Tetrachloroethane	ND	ND	5
Toluene	ND	ND	5
Chlorobenzene	ND	ND	5
Ethyl Benzene	ND	ND	5
Styrene	ND	ND	5
Total Xylenes	ND	ND	5

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Laboratory Report

ENSR
19782 MACARTHUR BLVD
STE 365
IRVINE, CA 92715
ATTN: MR. BRADLEY STRAUCH

Analysis No.: G-8834213-004
Date Sampled: 6-DEC-1988
Date Sample Rec'd: 7-DEC-1988
Date Analyzed: 13-DEC-1988
Sample Type: LIQUID

Project: SANTE FE SPRINGS #5500-002-400
Sample ID: MW-204

Purgeable Organics, EPA 624

Units: ug/L

Analysis	Result	Blank	Detection Limit
Chloromethane	ND	ND	10
Bromomethane	ND	ND	10
Vinyl Chloride	ND	ND	10
Chloroethane	ND	ND	10
Methylene Chloride	ND	ND	5
Acetone	ND	ND	10
Carbon Disulfide	ND	ND	5
1,1-Dichloroethene	ND	ND	5
1,1-Dichloroethane	ND	ND	5
trans-1,2-Dichloroethene	ND	ND	5
Chloroform	ND	ND	5
1,2-Dichloroethane	7	ND	5
2-Butanone	ND	ND	10
1,1,1-Trichloroethane	ND	ND	5
Carbon Tetrachloride	ND	ND	5
Vinyl Acetate	ND	ND	10
Bromodichloromethane	ND	ND	5
1,2-Dichloropropane	ND	ND	5
trans-1,3-Dichloropropene	ND	ND	5
Trichloroethene	ND	ND	5
Dibromochloromethane	ND	ND	5
1,1,2-Trichloroethane	ND	ND	5
Benzene	33	ND	5
cis-1,3-Dichloropropene	ND	ND	5
2-Chloroethylvinyl ether	ND	ND	10
Bromoform	ND	ND	5
4-Methyl-2-pentanone	ND	ND	10
2-Hexanone	ND	ND	10
Tetrachloroethene	ND	ND	5
1,1,2,2-Tetrachloroethane	ND	ND	5
Toluene	ND	ND	5
Chlorobenzene	ND	ND	5
Ethyl Benzene	ND	ND	5
Styrene	ND	ND	5
Total Xylenes	ND	ND	5

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Laboratory Report

ENSR
19782 MACARTHUR BLVD
STE 365
IRVINE, CA 92715
ATTN: MR. BRADLEY STRAUCH

Analysis No.: G-8834213-005
Date Sampled: 6-DEC-1988
Date Sample Rec'd: 7-DEC-1988
Date Analyzed: 14-DEC-1988
Sample Type: LIQUID

Project: SANTE FE SPRINGS #5500-002-400
Sample ID: MW-205

Purgeable Organics, EPA 624

Units: ug/L

Analysis	Result	Blank	Detection Limit
Chloromethane	ND	ND	10
Bromomethane	ND	ND	10
Vinyl Chloride	ND	ND	10
Chloroethane	ND	ND	10
Methylene Chloride	ND	ND	5
Acetone	ND	ND	10
Carbon Disulfide	ND	ND	5
1,1-Dichloroethene	ND	ND	5
1,1-Dichloroethane	ND	ND	5
trans-1,2-Dichloroethene	ND	ND	5
Chloroform	ND	ND	5
1,2-Dichloroethane	ND	ND	5
2-Butanone	ND	ND	10
1,1,1-Trichloroethane	ND	ND	5
Carbon Tetrachloride	ND	ND	5
Vinyl Acetate	ND	ND	10
Bromodichloromethane	ND	ND	5
1,2-Dichloropropane	ND	ND	5
trans-1,3-Dichloropropene	ND	ND	5
Trichloroethene	ND	ND	5
Dibromochloromethane	ND	ND	5
1,1,2-Trichloroethane	ND	ND	5
Benzene	120	ND	5
cis-1,3-Dichloropropene	ND	ND	5
2-Chloroethylvinyl ether	ND	ND	10
Bromoform	ND	ND	5
4-Methyl-2-pentanone	ND	ND	10
2-Hexanone	ND	ND	10
Tetrachloroethene	ND	ND	5
1,1,2,2-Tetrachloroethane	ND	ND	5
Toluene	ND	ND	5
Chlorobenzene	ND	ND	5
Ethyl Benzene	ND	ND	5
Styrene	ND	ND	5
Total Xylenes	ND	ND	5

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Laboratory Report

ENSR
19782 MACARTHUR BLVD
STE 365
IRVINE, CA 92715
ATTN: MR. BRADLEY STRAUCH
Project: SANTE FE SPRINGS #5500-002-400
Sample ID: MW-203

Analysis No.: G-8834213-006
Date Sampled: 7-DEC-1988
Date Sample Rec'd: 7-DEC-1988
Date Analyzed: 15-DEC-1988
Sample Type: LIQUID

Purgeable Organics, EPA 624

Units: ug/L

Analysis	Result	Blank	Detection Limit
Chloromethane	ND	ND	10
Bromomethane	ND	ND	10
Vinyl Chloride	ND	ND	10
Chloroethane	ND	ND	10
Methylene Chloride	ND	ND	5
Acetone	ND	ND	10
Carbon Disulfide	ND	ND	5
1,1-Dichloroethene	ND	ND	5
1,1-Dichloroethane	ND	ND	5
trans-1,2-Dichloroethene	24	ND	5
Chloroform	ND	ND	5
1,2-Dichloroethane	ND	ND	5
2-Butanone	ND	ND	10
1,1,1-Trichloroethane	ND	ND	5
Carbon Tetrachloride	ND	ND	5
Vinyl Acetate	ND	ND	10
Bromodichloromethane	ND	ND	5
1,2-Dichloropropane	ND	ND	5
trans-1,3-Dichloropropene	ND	ND	5
Trichloroethene	ND	ND	5
Dibromochloromethane	ND	ND	5
1,1,2-Trichloroethane	ND	ND	5
Benzene	64	ND	5
cis-1,3-Dichloropropene	ND	ND	5
2-Chloroethylvinyl ether	ND	ND	10
Bromoform	ND	ND	5
4-Methyl-2-pentanone	ND	ND	10
2-Hexanone	ND	ND	10
Tetrachloroethene	ND	ND	5
1,1,2,2-Tetrachloroethane	ND	ND	5
Toluene	ND	ND	5
Chlorobenzene	ND	ND	5
Ethyl Benzene	ND	ND	5
Styrene	ND	ND	5
Total Xylenes	ND	ND	5

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Laboratory Report

ENSR
19782 MACARTHUR BLVD
STE 365
IRVINE, CA 92715
ATTN: MR. BRADLEY STRAUCH
Project: SANTE FE SPRINGS #5500-002-400
Sample ID: MW-201

Analysis No.: G-8834213-007
Date Sampled: 7-DEC-1988
Date Sample Rec'd: 7-DEC-1988
Date Analyzed: 14-DEC-1988
Sample Type: LIQUID

Purgeable Organics, EPA 624

Units: ug/L

Analysis	Result	Blank	Detection Limit
Chloromethane	ND	ND	10
Bromomethane	ND	ND	10
Vinyl Chloride	ND	ND	10
Chloroethane	ND	ND	10
Methylene Chloride	ND	ND	5
Acetone	ND	ND	10
Carbon Disulfide	ND	ND	5
1,1-Dichloroethene	ND	ND	5
1,1-Dichloroethane	ND	ND	5
trans-1,2-Dichloroethene	10	ND	5
Chloroform	ND	ND	5
1,2-Dichloroethane	ND	ND	5
2-Butanone	ND	ND	10
1,1,1-Trichloroethane	ND	ND	5
Carbon Tetrachloride	ND	ND	5
Vinyl Acetate	ND	ND	10
Bromodichloromethane	ND	ND	5
1,2-Dichloropropane	ND	ND	5
trans-1,3-Dichloropropene	ND	ND	5
Trichloroethene	ND	ND	5
Dibromochloromethane	ND	ND	5
1,1,2-Trichloroethane	ND	ND	5
Benzene	420	ND	5
cis-1,3-Dichloropropene	ND	ND	5
2-Chloroethylvinyl ether	ND	ND	10
Bromoform	ND	ND	5
4-Methyl-2-pentanone	45	ND	10
2-Hexanone	ND	ND	10
Tetrachloroethene	ND	ND	5
1,1,2,2-Tetrachloroethane	ND	ND	5
Toluene	65	ND	5
Chlorobenzene	ND	ND	5
Ethyl Benzene	19	ND	5
Styrene	ND	ND	5
Total Xylenes	100	ND	5

CRL Environmental - South Coast
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Laboratory Report

ENSR
19782 MACARTHUR BLVD
STE 365
IRVINE, CA 92715
ATTN: MR. BRADLEY STRAUCH
Project: SANTE FE SPRINGS #5500-002-400
Sample ID: MW-503

Analysis No.: G-8834213-008
Date Sampled: 7-DEC-1988
Date Sample Rec'd: 7-DEC-1988
Date Analyzed: 15-DEC-1988
Sample Type: LIQUID

Purgeable Organics, EPA 624

Units: ug/L

Analysis	Result	Blank	Detection Limit
Chloromethane	ND	ND	200
Bromomethane	ND	ND	200
Vinyl Chloride	ND	ND	200
Chloroethane	ND	ND	200
Methylene Chloride	ND	ND	100
Acetone	ND	ND	200
Carbon Disulfide	ND	ND	100
1,1-Dichloroethene	ND	ND	100
1,1-Dichloroethane	ND	ND	100
trans-1,2-Dichloroethene	ND	ND	100
Chloroform	ND	ND	100
1,2-Dichloroethane	ND	ND	100
2-Butanone	ND	ND	200
1,1,1-Trichloroethane	ND	ND	100
Carbon Tetrachloride	ND	ND	100
Vinyl Acetate	ND	ND	200
Bromodichloromethane	ND	ND	100
1,2-Dichloropropane	ND	ND	100
trans-1,3-Dichloropropene	ND	ND	100
Trichloroethene	ND	ND	100
Dibromochloromethane	ND	ND	100
1,1,2-Trichloroethane	ND	ND	100
Benzene	1500	ND	100
cis-1,3-Dichloropropene	ND	ND	100
2-Chloroethylvinyl ether	ND	ND	200
Bromoform	ND	ND	100
4-Methyl-2-pentanone	ND	ND	200
2-Hexanone	ND	ND	200
Tetrachloroethene	ND	ND	100
1,1,2,2-Tetrachloroethane	ND	ND	100
Toluene	570	ND	100
Chlorobenzene	ND	ND	100
Ethyl Benzene	380	ND	100
Styrene	ND	ND	100
Total Xylenes	960	ND	100

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Laboratory Report

ENSR
19782 MACARTHUR BLVD
STE 365
IRVINE, CA 92715
ATTN: MR. BRADLEY STRAUCH
Project: SANTE FE SPRINGS #5500-002-400
Sample ID: MW-206

Analysis No.: G-8834213-009
Date Sampled: 7-DEC-1988
Date Sample Rec'd: 7-DEC-1988
Date Analyzed: 15-DEC-1988
Sample Type: LIQUID

Purgeable Organics, EPA 624

Units: ug/L

Analysis	Result	Blank	Detection Limit
Chloromethane	ND	ND	1000
Bromomethane	ND	ND	1000
Vinyl Chloride	ND	ND	1000
Chloroethane	ND	ND	1000
Methylene Chloride	ND	ND	500
Acetone	ND	ND	1000
Carbon Disulfide	ND	ND	500
1,1-Dichloroethene	ND	ND	500
1,1-Dichloroethane	ND	ND	500
trans-1,2-Dichloroethene	ND	ND	500
Chloroform	ND	ND	500
1,2-Dichloroethane	ND	ND	500
2-Butanone	ND	ND	1000
1,1,1-Trichloroethane	ND	ND	500
Carbon Tetrachloride	ND	ND	500
Vinyl Acetate	ND	ND	1000
Bromodichloromethane	ND	ND	500
1,2-Dichloropropane	ND	ND	500
trans-1,3-Dichloropropene	ND	ND	500
Trichloroethene	ND	ND	500
Dibromochloromethane	ND	ND	500
1,1,2-Trichloroethane	ND	ND	500
Benzene	4300	ND	500
cis-1,3-Dichloropropene	ND	ND	500
2-Chloroethylvinyl ether	ND	ND	1000
Bromoform	ND	ND	500
4-Methyl-2-pentanone	ND	ND	1000
2-Hexanone	ND	ND	1000
Tetrachloroethene	ND	ND	500
1,1,2,2-Tetrachloroethane	ND	ND	500
Toluene	920	ND	500
Chlorobenzene	ND	ND	500
Ethyl Benzene	2100	ND	500
Styrene	ND	ND	500
Total Xylenes	5500	ND	500

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FAX: (714) 891-5917

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Laboratory Report

ENSR
19782 MACARTHUR BLVD
STE 365
IRVINE, CA 92715
ATTN: MR. BRADLEY STRAUCH

Analysis No.: G-8834213-010
Date Sampled: 7-DEC-1988
Date Sample Rec'd: 7-DEC-1988
Date Analyzed: 15-DEC-1988
Sample Type: LIQUID

Project: SANTE FE SPRINGS #5500-002-400
Sample ID: MW-502

Purgeable Organics, EPA 624

Units: ug/L

Analysis	Result	Blank	Detection Limit
Chloromethane	ND	ND	500
Bromomethane	ND	ND	500
Vinyl Chloride	ND	ND	500
Chloroethane	ND	ND	500
Methylene Chloride	ND	ND	200
Acetone	ND	ND	500
Carbon Disulfide	ND	ND	200
1,1-Dichloroethene	ND	ND	200
1,1-Dichloroethane	ND	ND	200
trans-1,2-Dichloroethene	ND	ND	200
Chloroform	ND	ND	200
1,2-Dichloroethane	ND	ND	200
2-Butanone	ND	ND	500
1,1,1-Trichloroethane	ND	ND	200
Carbon Tetrachloride	ND	ND	200
Vinyl Acetate	ND	ND	500
Bromodichloromethane	ND	ND	200
1,2-Dichloropropane	ND	ND	200
trans-1,3-Dichloropropene	ND	ND	200
Trichloroethene	ND	ND	200
Dibromochloromethane	ND	ND	200
1,1,2-Trichloroethane	ND	ND	200
Benzene	6500	ND	200
cis-1,3-Dichloropropene	ND	ND	200
2-Chloroethylvinyl ether	ND	ND	500
Bromoform	ND	ND	200
4-Methyl-2-pentanone	ND	ND	500
2-Hexanone	ND	ND	500
Tetrachloroethene	ND	ND	200
1,1,2,2-Tetrachloroethane	ND	ND	200
Toluene	860	ND	200
Chlorobenzene	ND	ND	200
Ethyl Benzene	1500	ND	200
Styrene	ND	ND	200
Total Xylenes	5500	ND	200

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FAX: (714) 891-5917

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Laboratory Report

ENSR
19782 MACARTHUR BLVD
STE 365
IRVINE, CA 92715
ATTN: MR. BRADLEY STRAUCH
Project: SANTE FE SPRINGS #5500-002-400
Sample ID: MW-001

Analysis No.: G-8834213-011
Date Sampled: 7-DEC-1988
Date Sample Rec'd: 7-DEC-1988
Date Analyzed: 15-DEC-1988
Sample Type: LIQUID

Purgeable Organics, EPA 624

Units: ug/L

Analysis	Result	Blank	Detection Limit
Chloromethane	ND	ND	10
Bromomethane	ND	ND	10
Vinyl Chloride	ND	ND	10
Chloroethane	ND	ND	10
Methylene Chloride	ND	ND	5
Acetone	ND	ND	10
Carbon Disulfide	ND	ND	5
1,1-Dichloroethene	ND	ND	5
1,1-Dichloroethane	ND	ND	5
trans-1,2-Dichloroethene	ND	ND	5
Chloroform	ND	ND	5
1,2-Dichloroethane	ND	ND	5
2-Butanone	ND	ND	10
1,1,1-Trichloroethane	ND	ND	5
Carbon Tetrachloride	ND	ND	5
Vinyl Acetate	ND	ND	10
Bromodichloromethane	ND	ND	5
1,2-Dichloropropane	ND	ND	5
trans-1,3-Dichloropropene	ND	ND	5
Trichloroethene	ND	ND	5
Dibromochloromethane	ND	ND	5
1,1,2-Trichloroethane	ND	ND	5
Benzene	ND	ND	5
cis-1,3-Dichloropropene	ND	ND	5
2-Chloroethylvinyl ether	ND	ND	10
Bromoform	ND	ND	5
4-Methyl-2-pentanone	ND	ND	10
2-Hexanone	ND	ND	10
Tetrachloroethene	ND	ND	5
1,1,2,2-Tetrachloroethane	ND	ND	5
Toluene	ND	ND	5
Chlorobenzene	ND	ND	5
Ethyl Benzene	ND	ND	5
Styrene	ND	ND	5
Total Xylenes	ND	ND	5

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FAX: (714) 891-5917

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Laboratory Report

ENSR
19782 MACARTHUR BLVD
STE 365
IRVINE, CA 92715
ATTN: MR. BRADLEY STRAUCH
Project: SANTE FE SPRINGS #5500-002-400
Sample ID: MW-002

Analysis No.: G-8834213-012
Date Sampled: 7-DEC-1988
Date Sample Rec'd: 7-DEC-1988
Date Analyzed: 15-DEC-1988
Sample Type: LIQUID

Purgeable Organics, EPA 624

Units: ug/L

Analysis	Result	Blank	Detection Limit
Chloromethane	ND	ND	10
Bromomethane	ND	ND	10
Vinyl Chloride	ND	ND	10
Chloroethane	ND	ND	10
Methylene Chloride	ND	ND	5
Acetone	ND	ND	10
Carbon Disulfide	ND	ND	5
1,1-Dichloroethene	ND	ND	5
1,1-Dichloroethane	ND	ND	5
trans-1,2-Dichloroethene	ND	ND	5
Chloroform	ND	ND	5
1,2-Dichloroethane	ND	ND	5
2-Butanone	ND	ND	10
1,1,1-Trichloroethane	ND	ND	5
Carbon Tetrachloride	ND	ND	5
Vinyl Acetate	ND	ND	10
Bromodichloromethane	ND	ND	5
1,2-Dichloropropane	ND	ND	5
trans-1,3-Dichloropropene	ND	ND	5
Trichloroethene	ND	ND	5
Dibromochloromethane	ND	ND	5
1,1,2-Trichloroethane	ND	ND	5
Benzene	ND	ND	5
cis-1,3-Dichloropropene	ND	ND	5
2-Chloroethylvinyl ether	ND	ND	10
Bromoform	ND	ND	5
4-Methyl-2-pentanone	ND	ND	10
2-Hexanone	ND	ND	10
Tetrachloroethene	ND	ND	5
1,1,2,2-Tetrachloroethane	ND	ND	5
Toluene	ND	ND	5
Chlorobenzene	ND	ND	5
Ethyl Benzene	ND	ND	5
Styrene	ND	ND	5
Total Xylenes	ND	ND	5

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ENSR
19782 MACARTHUR BLVD
STE 365
IRVINE, CA 92715
ATTN: MR. BRADLEY STRAUCH
Project: SANTE FE SPRINGS #5500-002-400
Sample ID: MW-103

Analysis No.: G-8834213-001
Date Sampled: 6-DEC-1988
Date Sample Rec'd: 7-DEC-1988
Date Analyzed: 12-DEC-1988
Sample Type: LIQUID

Halogenated Volatile Organics, EPA 601

Units: ug/L

Analysis	Result	Blank	Detection Limit
Chloromethane	ND	ND	10
Bromomethane	ND	ND	10
Vinyl Chloride	ND	ND	10
Chloroethane	ND	ND	10
Methylene Chloride	ND	ND	10
1,1-Dichloroethene	ND	ND	10
1,1-Dichloroethane	ND	ND	10
trans-1,2-Dichloroethene	ND	ND	10
Chloroform	ND	ND	10
1,2-Dichloroethane	ND	ND	10
1,1,1-Trichloroethane	ND	ND	10
Carbon Tetrachloride	ND	ND	10
1,2-Dichlorobenzene	ND	ND	10
Trichlorofluoromethane	ND	ND	10
1,2-Dichloropropane	ND	ND	10
trans-1,3-Dichloropropene	ND	ND	10
Trichloroethene	ND	ND	10
Dibromochloromethane	ND	ND	10
1,1,2-Trichloroethane	ND	ND	10
cis-1,3-Dichloropropene	ND	ND	10
2-Chloroethylvinyl ether	ND	ND	10
Bromoform	ND	ND	10
Tetrachloroethene	ND	ND	10
1,1,2,2-Tetrachloroethane	ND	ND	10
Chlorobenzene	ND	ND	10
Bromodichloromethane	ND	ND	10
1,3-Dichlorobenzene	ND	ND	10
1,4-Dichlorobenzene	ND	ND	10

NOTE: Higher detection limits due to sample matrix.

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Laboratory Report

ENSR
19782 MACARTHUR BLVD
STE 365
IRVINE, CA 92715
ATTN: MR. BRADLEY STRAUCH

Analysis No.: G-8834213-002
Date Sampled: 6-DEC-1988
Date Sample Rec'd: 7-DEC-1988
Date Analyzed: 12-DEC-1988
Sample Type: LIQUID

Project: SANTE FE SPRINGS #5500-002-400
Sample ID: MW-101

Halogenated Volatile Organics, EPA 601

Units: ug/L

Analysis	Result	Blank	Detection Limit
Chloromethane	ND	ND	20
Bromomethane	ND	ND	20
Vinyl Chloride	ND	ND	20
Chloroethane	ND	ND	20
Methylene Chloride	ND	ND	20
1,1-Dichloroethene	ND	ND	20
1,1-Dichloroethane	ND	ND	20
trans-1,2-Dichloroethene	ND	ND	20
Chloroform	ND	ND	20
1,2-Dichloroethane	ND	ND	20
1,1,1-Trichloroethane	ND	ND	20
Carbon Tetrachloride	ND	ND	20
1,2-Dichlorobenzene	ND	ND	20
Trichlorofluoromethane	ND	ND	20
1,2-Dichloropropane	ND	ND	20
trans-1,3-Dichloropropene	ND	ND	20
Trichloroethene	ND	ND	20
Dibromochloromethane	ND	ND	20
1,1,2-Trichloroethane	ND	ND	20
cis-1,3-Dichloropropene	ND	ND	20
2-Chloroethylvinyl ether	ND	ND	20
Bromoform	ND	ND	20
Tetrachloroethene	ND	ND	20
1,1,2,2-Tetrachloroethane	ND	ND	20
Chlorobenzene	ND	ND	20
Bromodichloromethane	ND	ND	20
1,3-Dichlorobenzene	ND	ND	20
1,4-Dichlorobenzene	ND	ND	20

NOTE: Higher detection limits due to sample matrix.

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Laboratory Report

ENSR
19782 MACARTHUR BLVD
STE 365
IRVINE, CA 92715
ATTN: MR. BRADLEY STRAUCH

Analysis No.: G-8834213-003
Date Sampled: 6-DEC-1988
Date Sample Rec'd: 7-DEC-1988
Date Analyzed: 12-DEC-1988
Sample Type: LIQUID

Project: SANTE FE SPRINGS #5500-002-400
Sample ID: MW-104

Halogenated Volatile Organics, EPA 601

Units: ug/L

Analysis	Result	Blank	Detection Limit
Chloromethane	ND	ND	1
Bromomethane	ND	ND	1
Vinyl Chloride	ND	ND	1
Chloroethane	ND	ND	1
Methylene Chloride	ND	ND	1
1,1-Dichloroethene	ND	ND	1
1,1-Dichloroethane	ND	ND	1
trans-1,2-Dichloroethene	ND	ND	1
Chloroform	ND	ND	1
1,2-Dichloroethane	ND	ND	1
1,1,1-Trichloroethane	ND	ND	1
Carbon Tetrachloride	ND	ND	1
1,2-Dichlorobenzene	ND	ND	1
Trichlorofluoromethane	ND	ND	1
1,2-Dichloropropane	ND	ND	1
trans-1,3-Dichloropropene	ND	ND	1
Trichloroethene	ND	ND	1
Dibromochloromethane	ND	ND	1
1,1,2-Trichloroethane	ND	ND	1
cis-1,3-Dichloropropene	ND	ND	1
2-Chloroethylvinyl ether	ND	ND	1
Bromoform	ND	ND	1
Tetrachloroethene	ND	ND	1
1,1,2,2-Tetrachloroethane	ND	ND	1
Chlorobenzene	ND	ND	1
Bromodichloromethane	ND	ND	1
1,3-Dichlorobenzene	ND	ND	1
1,4-Dichlorobenzene	ND	ND	1

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ENSR
19782 MACARTHUR BLVD
STE 365
IRVINE, CA 92715
ATTN: MR. BRADLEY STRAUCH

Analysis No.: G-8834213-004
Date Sampled: 6-DEC-1988
Date Sample Rec'd: 7-DEC-1988
Date Analyzed: 12-DEC-1988
Sample Type: LIQUID

Project: SANTE FE SPRINGS #5500-002-400
Sample ID: MW-204

Halogenated Volatile Organics, EPA 601

Units: ug/L

Analysis	Result	Blank	Detection Limit
Chloromethane	ND	ND	1
Bromomethane	ND	ND	1
Vinyl Chloride	ND	ND	1
Chloroethane	ND	ND	1
Methylene Chloride	ND	ND	1
1,1-Dichloroethene	ND	ND	1
1,1-Dichloroethane	ND	ND	1
trans-1,2-Dichloroethene	ND	ND	1
Chloroform	ND	ND	1
1,2-Dichloroethane	6	ND	1
1,1,1-Trichloroethane	ND	ND	1
Carbon Tetrachloride	ND	ND	1
1,2-Dichlorobenzene	ND	ND	1
Trichlorofluoromethane	ND	ND	1
1,2-Dichloropropane	ND	ND	1
trans-1,3-Dichloropropene	ND	ND	1
Trichloroethene	ND	ND	1
Dibromochloromethane	ND	ND	1
1,1,2-Trichloroethane	ND	ND	1
cis-1,3-Dichloropropene	ND	ND	1
2-Chloroethylvinyl ether	ND	ND	1
Bromoform	ND	ND	1
Tetrachloroethene	ND	ND	1
1,1,2,2-Tetrachloroethane	ND	ND	1
Chlorobenzene	ND	ND	1
Bromodichloromethane	ND	ND	1
1,3-Dichlorobenzene	ND	ND	1
1,4-Dichlorobenzene	ND	ND	1

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ENSR
19782 MACARTHUR BLVD
STE 365
IRVINE, CA 92715
ATTN: MR. BRADLEY STRAUCH
Project: SANTE FE SPRINGS #5500-002-400
Sample ID: MW-205

Analysis No.: G-8834213-005
Date Sampled: 6-DEC-1988
Date Sample Rec'd: 7-DEC-1988
Date Analyzed: 13-DEC-1988
Sample Type: LIQUID

Halogenated Volatile Organics, EPA 601

Units: ug/L

Analysis	Result	Blank	Detection Limit
Chloromethane	ND	ND	10
Bromomethane	ND	ND	10
Vinyl Chloride	ND	ND	10
Chloroethane	ND	ND	10
Methylene Chloride	ND	ND	10
1,1-Dichloroethene	ND	ND	10
1,1-Dichloroethane	ND	ND	10
trans-1,2-Dichloroethene	ND	ND	10
Chloroform	ND	ND	10
1,2-Dichloroethane	ND	ND	10
1,1,1-Trichloroethane	ND	ND	10
Carbon Tetrachloride	ND	ND	10
1,2-Dichlorobenzene	ND	ND	10
Trichlorofluoromethane	ND	ND	10
1,2-Dichloropropane	ND	ND	10
trans-1,3-Dichloropropene	ND	ND	10
Trichloroethene	ND	ND	10
Dibromochloromethane	ND	ND	10
1,1,2-Trichloroethane	ND	ND	10
cis-1,3-Dichloropropene	ND	ND	10
2-Chloroethylvinyl ether	ND	ND	10
Bromoform	ND	ND	10
Tetrachloroethene	ND	ND	10
1,1,2,2-Tetrachloroethane	ND	ND	10
Chlorobenzene	ND	ND	10
Bromodichloromethane	ND	ND	10
1,3-Dichlorobenzene	ND	ND	10
1,4-Dichlorobenzene	ND	ND	10

NOTE: Higher detection limits due to sample matrix.

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ENSR
19782 MACARTHUR BLVD
STE 365
IRVINE, CA 92715
ATTN: MR. BRADLEY STRAUCH
Project: SANTE FE SPRINGS #5500-002-400
Sample ID: MW-203

Analysis No.: G-8834213-006
Date Sampled: 7-DEC-1988
Date Sample Rec'd: 7-DEC-1988
Date Analyzed: 14-DEC-1988
Sample Type: LIQUID

Halogenated Volatile Organics, EPA 601

Units: ug/L

Analysis	Result	Blank	Detection Limit
Chloromethane	ND	ND	1
Bromomethane	ND	ND	1
Vinyl Chloride	ND	ND	1
Chloroethane	ND	ND	1
Methylene Chloride	ND	ND	1
1,1-Dichloroethene	ND	ND	1
1,1-Dichloroethane	ND	ND	1
trans-1,2-Dichloroethene	25	ND	1
Chloroform	ND	ND	1
1,2-Dichloroethane	ND	ND	1
1,1,1-Trichloroethane	ND	ND	1
Carbon Tetrachloride	ND	ND	1
1,2-Dichlorobenzene	ND	ND	1
Trichlorofluoromethane	ND	ND	1
1,2-Dichloropropane	ND	ND	1
trans-1,3-Dichloropropene	ND	ND	1
Trichloroethene	ND	ND	1
Dibromochloromethane	ND	ND	1
1,1,2-Trichloroethane	ND	ND	1
cis-1,3-Dichloropropene	ND	ND	1
2-Chloroethylvinyl ether	ND	ND	1
Bromoform	ND	ND	1
Tetrachloroethene	ND	ND	1
1,1,2,2-Tetrachloroethane	ND	ND	1
Chlorobenzene	ND	ND	1
Bromodichloromethane	ND	ND	1
1,3-Dichlorobenzene	ND	ND	1
1,4-Dichlorobenzene	ND	ND	1

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Laboratory Report

ENSR
19782 MACARTHUR BLVD
STE 365
IRVINE, CA 92715
ATTN: MR. BRADLEY STRAUCH

Analysis No.: G-8834213-007
Date Sampled: 7-DEC-1988
Date Sample Rec'd: 7-DEC-1988
Date Analyzed: 12-DEC-1988
Sample Type: LIQUID

Project: SANTE FE SPRINGS #5500-002-400
Sample ID: MW-201

Halogenated Volatile Organics, EPA 601

Units: ug/L

Analysis	Result	Blank	Detection Limit
Chloromethane	ND	ND	10
Bromomethane	ND	ND	10
Vinyl Chloride	ND	ND	10
Chloroethane	ND	ND	10
Methylene Chloride	ND	ND	10
1,1-Dichloroethene	40	ND	10
1,1-Dichloroethane	ND	ND	10
trans-1,2-Dichloroethene	ND	ND	10
Chloroform	ND	ND	10
1,2-Dichloroethane	ND	ND	10
1,1,1-Trichloroethane	40	ND	10
Carbon Tetrachloride	ND	ND	10
1,2-Dichlorobenzene	ND	ND	10
Trichlorofluoromethane	ND	ND	10
1,2-Dichloropropane	ND	ND	10
trans-1,3-Dichloropropene	ND	ND	10
Trichloroethene	ND	ND	10
Dibromochloromethane	ND	ND	10
1,1,2-Trichloroethane	ND	ND	10
cis-1,3-Dichloropropene	ND	ND	10
2-Chloroethylvinyl ether	ND	ND	10
Bromoform	ND	ND	10
Tetrachloroethene	ND	ND	10
1,1,2,2-Tetrachloroethane	ND	ND	10
Chlorobenzene	ND	ND	10
Bromodichloromethane	ND	ND	10
1,3-Dichlorobenzene	ND	ND	10
1,4-Dichlorobenzene	ND	ND	10

NOTE: Higher detection limits due to sample matrix.

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Laboratory Report

ENSR
19782 MACARTHUR BLVD
STE 365
IRVINE, CA 92715
ATTN: MR. BRADLEY STRAUCH

Analysis No.: G-8834213-008
Date Sampled: 7-DEC-1988
Date Sample Rec'd: 7-DEC-1988
Date Analyzed: 13-DEC-1988
Sample Type: LIQUID

Project: SANTE FE SPRINGS #5500-002-400
Sample ID: MW-503

Halogenated Volatile Organics, EPA 601

Units: ug/L

Analysis	Result	Blank	Detection Limit
Chloromethane	ND	ND	10
Bromomethane	ND	ND	10
Vinyl Chloride	ND	ND	10
Chloroethane	ND	ND	10
Methylene Chloride	ND	ND	10
1,1-Dichloroethene	ND	ND	10
1,1-Dichloroethane	ND	ND	10
trans-1,2-Dichloroethene	ND	ND	10
Chloroform	ND	ND	10
1,2-Dichloroethane	ND	ND	10
1,1,1-Trichloroethane	ND	ND	10
Carbon Tetrachloride	ND	ND	10
1,2-Dichlorobenzene	ND	ND	10
Trichlorofluoromethane	ND	ND	10
1,2-Dichloropropane	ND	ND	10
trans-1,3-Dichloropropene	ND	ND	10
Trichloroethene	ND	ND	10
Dibromochloromethane	ND	ND	10
1,1,2-Trichloroethane	ND	ND	10
cis-1,3-Dichloropropene	ND	ND	10
2-Chloroethylvinyl ether	ND	ND	10
Bromoform	ND	ND	10
Tetrachloroethene	ND	ND	10
1,1,2,2-Tetrachloroethane	ND	ND	10
Chlorobenzene	ND	ND	10
Bromodichloromethane	ND	ND	10
1,3-Dichlorobenzene	ND	ND	10
1,4-Dichlorobenzene	ND	ND	10

NOTE: Higher detection limits due to sample matrix.

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Laboratory Report

ENSR
975 BUSINESS CENTER CIRCLE
NEWBERRY PARK, CA 91320
ATTN: MR. BRADLEY STRAUCH

Analysis No.: G-8834213-009
Date Sampled: 7-DEC-1988
Date Sample Rec'd: 7-DEC-1988
Date Analyzed: 14-DEC-1988
Sample Type: LIQUID

Project: SANTE FE SPRINGS #5500-002-400
Sample ID: MW-206

Halogenated Volatile Organics, EPA 601

Units: ug/L

Analysis	Result	Blank	Detection Limit
Chloromethane	ND	ND	1
Bromomethane	ND	ND	1
Vinyl Chloride	ND	ND	1
Chloroethane	ND	ND	1
Methylene Chloride	ND	ND	1
1,1-Dichloroethene	ND	ND	1
1,1-Dichloroethane	ND	ND	1
trans-1,2-Dichloroethene	ND	ND	1
Chloroform	ND	ND	1
1,2-Dichloroethane	ND	ND	1
1,1,1-Trichloroethane	ND	ND	1
Carbon Tetrachloride	ND	ND	1
1,2-Dichlorobenzene	ND	ND	1
Trichlorofluoromethane	ND	ND	1
1,2-Dichloropropane	ND	ND	1
trans-1,3-Dichloropropene	ND	ND	1
Trichloroethene	ND	ND	1
Dibromochloromethane	ND	ND	1
1,1,2-Trichloroethane	ND	ND	1
cis-1,3-Dichloropropene	ND	ND	1
2-Chloroethylvinyl ether	ND	ND	1
Bromoform	ND	ND	1
Tetrachloroethene	ND	ND	1
1,1,2,2-Tetrachloroethane	ND	ND	1
Chlorobenzene	ND	ND	1
Bromodichloromethane	ND	ND	1
1,3-Dichlorobenzene	ND	ND	1
1,4-Dichlorobenzene	ND	ND	1

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Laboratory Report

ENSR
19782 MACARTHUR BLVD
STE 365
IRVINE, CA 92715
ATTN: MR. BRADLEY STRAUCH
Project: SANTE FE SPRINGS #5500-002-400
Sample ID: MW-502

Analysis No.: G-8834213-010
Date Sampled: 7-DEC-1988
Date Sample Rec'd: 7-DEC-1988
Date Analyzed: 14-DEC-1988
Sample Type: LIQUID

Halogenated Volatile Organics, EPA 601

Units: ug/L

Analysis	Result	Blank	Detection Limit
Chloromethane	ND	ND	5000
Bromomethane	ND	ND	5000
Vinyl Chloride	ND	ND	5000
Chloroethane	ND	ND	5000
Methylene Chloride	ND	ND	5000
1,1-Dichloroethene	ND	ND	5000
1,1-Dichloroethane	ND	ND	5000
trans-1,2-Dichloroethene	ND	ND	5000
Chloroform	ND	ND	5000
1,2-Dichloroethane	55,000	ND	5000
1,1,1-Trichloroethane	ND	ND	5000
Carbon Tetrachloride	ND	ND	5000
1,2-Dichlorobenzene	ND	ND	5000
Trichlorofluoromethane	ND	ND	5000
1,2-Dichloropropane	ND	ND	5000
trans-1,3-Dichloropropene	ND	ND	5000
Trichloroethene	ND	ND	5000
Dibromochloromethane	ND	ND	5000
1,1,2-Trichloroethane	ND	ND	5000
cis-1,3-Dichloropropene	ND	ND	5000
2-Chloroethylvinyl ether	ND	ND	5000
Bromoform	ND	ND	5000
Tetrachloroethene	ND	ND	5000
1,1,2,2-Tetrachloroethane	ND	ND	5000
Chlorobenzene	ND	ND	5000
Bromodichloromethane	ND	ND	5000
1,3-Dichlorobenzene	ND	ND	5000
1,4-Dichlorobenzene	ND	ND	5000

NOTE: Higher detection limits due to sample matrix.

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Laboratory Report

ENSR
19782 MACARTHUR BLVD
STE 365
IRVINE, CA 92715
ATTN: MR. BRADLEY STRAUCH

Analysis No.: G-8834213-011
Date Sampled: 7-DEC-1988
Date Sample Rec'd: 7-DEC-1988
Date Analyzed: 14-DEC-1988
Sample Type: LIQUID

Project: SANTE FE SPRINGS #5500-002-400
Sample ID: MW-001

Halogenated Volatile Organics, EPA 601

Units: ug/L

Analysis	Result	Blank	Detection Limit
Chloromethane	ND	ND	1
Bromomethane	ND	ND	1
Vinyl Chloride	ND	ND	1
Chloroethane	ND	ND	1
Methylene Chloride	ND	ND	1
1,1-Dichloroethene	ND	ND	1
1,1-Dichloroethane	ND	ND	1
trans-1,2-Dichloroethene	ND	ND	1
Chloroform	ND	ND	1
1,2-Dichloroethane	ND	ND	1
1,1,1-Trichloroethane	ND	ND	1
Carbon Tetrachloride	ND	ND	1
1,2-Dichlorobenzene	ND	ND	1
Trichlorofluoromethane	ND	ND	1
1,2-Dichloropropane	ND	ND	1
trans-1,3-Dichloropropene	ND	ND	1
Trichloroethene	ND	ND	1
Dibromochloromethane	ND	ND	1
1,1,2-Trichloroethane	ND	ND	1
cis-1,3-Dichloropropene	ND	ND	1
2-Chloroethylvinyl ether	ND	ND	1
Bromoform	ND	ND	1
Tetrachloroethene	ND	ND	1
1,1,2,2-Tetrachloroethane	ND	ND	1
Chlorobenzene	ND	ND	1
Bromodichloromethane	ND	ND	1
1,3-Dichlorobenzene	ND	ND	1
1,4-Dichlorobenzene	ND	ND	1

CRL Environmental - South Coast
7440 Lincoln Way ● Garden Grove, CA 92641
(213) 598-0458 ● (714) 898-6370 ● (800) LAB-1-CRL
FAX: (714) 891-5917

Enseco

Laboratory Report

ENSR
19782 MACARTHUR BLVD
STE 365
IRVINE, CA 92715
ATTN: MR. BRADLEY STRAUCH
Project: SANTE FE SPRINGS #5500-002-400
Sample ID: MW-002

Analysis No.: G-8834213-012
Date Sampled: 7-DEC-1988
Date Sample Rec'd: 7-DEC-1988
Date Analyzed: 14-DEC-1988
Sample Type: LIQUID

Halogenated Volatile Organics, EPA 601

Units: ug/L

Analysis	Result	Blank	Detection Limit
Chloromethane	ND	ND	1
Bromomethane	ND	ND	1
Vinyl Chloride	ND	ND	1
Chloroethane	ND	ND	1
Methylene Chloride	ND	ND	1
1,1-Dichloroethene	ND	ND	1
1,1-Dichloroethane	ND	ND	1
trans-1,2-Dichloroethene	ND	ND	1
Chloroform	ND	ND	1
1,2-Dichloroethane	ND	ND	1
1,1,1-Trichloroethane	ND	ND	1
Carbon Tetrachloride	ND	ND	1
1,2-Dichlorobenzene	ND	ND	1
Trichlorofluoromethane	ND	ND	1
1,2-Dichloropropane	ND	ND	1
trans-1,3-Dichloropropene	ND	ND	1
Trichloroethene	ND	ND	1
Dibromochloromethane	ND	ND	1
1,1,2-Trichloroethane	ND	ND	1
cis-1,3-Dichloropropene	ND	ND	1
2-Chloroethylvinyl ether	ND	ND	1
Bromoform	ND	ND	1
Tetrachloroethene	ND	ND	1
1,1,2,2-Tetrachloroethane	ND	ND	1
Chlorobenzene	ND	ND	1
Bromodichloromethane	ND	ND	1
1,3-Dichlorobenzene	ND	ND	1
1,4-Dichlorobenzene	ND	ND	1

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LABORATORY REPORT

ENSR
19782 MacArthur Blvd., Ste. 365
Irvine, CA 92715
ATTN: Mr. Bradley Strauch

ANALYSIS NO.: G-8834213-001/012
ANALYSES: EPA Method 601
DATE SAMPLED: 6/7-DEC-1988
DATE SAMPLE REC'D: 7-DEC-1988
SAMPLE TYPE: Liquid
PROJECT: Santa Fe Springs
#5500-002-400

QA/QC SUMMARY

Date	Parameter(method)	Average Spike Recovery%	Acceptable Range%	Relative Percent Difference	Acceptable Range%
12/13-DEC-1988	1,1-Dichloroethene (EPA 601)	80	60-120	1	40
12/13-DEC-1988	Trichloroethene (EPA 601)	85	60-120	2	40
12/13-DEC-1988	Chlorobenzene (EPA 601)	91	60-120	30	40
14-DEC-1988	1,1-Dichloroethene (EPA 601)	103	60-120	13	40
14-DEC-1988	Trichloroethene (EPA 601)	113	60-120	12	40
14-DEC-1988	Chlorobenzene (EPA 601)	95	60-120	3	40

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Enseco

LABORATORY REPORT

ENSR
19782 MacArthur Blvd., Ste. 365
Irvine, CA 92715
ATTN: Mr. Bradley Strauch

ANALYSIS NO.: G-8834213-001/012
ANALYSES: EPA Method 624
DATE SAMPLED: 6/7-DEC-1988
DATE SAMPLE REC'D: 7-DEC-1988
SAMPLE TYPE: Liquid
PROJECT: Santa Fe Springs
#5500-002-400

QA/QC SUMMARY

Date	Parameter(method)	Average Spike Recovery%	Acceptable Range%	Relative Percent Difference	Acceptable Range%
13-DEC-1988	1,1-Dichloroethene (EPA 624)	76	61-145	4	14
13-DEC-1988	Chlorobenzene (EPA 624)	97	75-130	2	13
14/15-DEC-1988	1,1-Dichloroethene (EPA 624)	94	61-145	1	14
14/15-DEC-1988	Chlorobenzene (EPA 624)	108	75-130	4	13
15-DEC-1988	1,1-Dichloroethene (EPA 624)	94	61-145	5	14
15-DEC-1988	Chlorobenzene (EPA 624)	104	75-130	10	13